The ancients knew that, in a circle,
the radius is proportional to circumference,
and that the radius^2 is proportional to the area.

$$\underbrace{C}_{c} = 2\pi r \qquad A = \pi r^2$$

6.1/1-18

$0 \quad \Delta x \quad 2$

$f(x) = \sqrt{x} \qquad [a,b] = [0,1]$

$\frac{1}{2}\left[\left(\frac{0}{2}\right)^{\frac{1}{2}} + \left(\frac{1}{2}\right)^{\frac{1}{2}} + \left(\frac{2}{2}\right)^{\frac{1}{2}} \left(\frac{3}{2}\right)^{\frac{1}{2}} + \left(\frac{4}{2}\right)^{\frac{1}{2}}\right.$

L

2. $\frac{1}{x+1}$ $[0,1]$ $[0,\pi]$

$$\left[\frac{1}{\left(\frac{0}{2}\right)+1}+\frac{1}{\left(\frac{1}{2}\right)+1}+\frac{1}{2}\right]\frac{1}{2}$$

$$\left[\frac{1}{\frac{1}{5}+1}+\frac{1}{\frac{2}{5}+1}+\frac{1}{\frac{3}{5}+1}+\frac{1}{\frac{4}{5}+1}+\frac{1}{2}\right]\frac{1}{5}$$

$$\left[\frac{1}{\frac{1}{10}+1}+\frac{1}{\frac{2}{10}+1}+\frac{1}{\frac{3}{10}+1}+\frac{1}{\frac{4}{10}+1}+\frac{1}{\frac{5}{10}+1}+\frac{1}{\frac{6}{10}+1}+\frac{1}{\frac{7}{10}+1}+\frac{1}{\frac{8}{10}+1}+\frac{1}{\frac{9}{10}+1}+\frac{1}{2}\right]\frac{1}{10}$$

5. $\frac{1}{x}$ $[1, 2]$ .58333

$$\frac{1}{2}\left(\frac{0}{2}+\frac{1}{2}+\frac{2}{2}\right)$$

$0 \quad \frac{1}{2} \quad 1$

$1, 1.5, 2$

1.45

$$\frac{1}{3}+\frac{1}{4}+\frac{1}{n}$$

.645635

$$\sum \frac{1}{5} : 1 \frac{1}{10} 2$$

$$\frac{1}{5}\left(\frac{1}{6/5}+\frac{1}{7/5}+\frac{1}{8/5}+\frac{1}{9/5}+\frac{1}{10/5}\right)$$

$0, \pi$

1

$$\frac{\left(\sin\frac{\pi}{2}+\sin\frac{3\pi}{2}\right)\frac{1}{2}}{\frac{1}{n}}$$

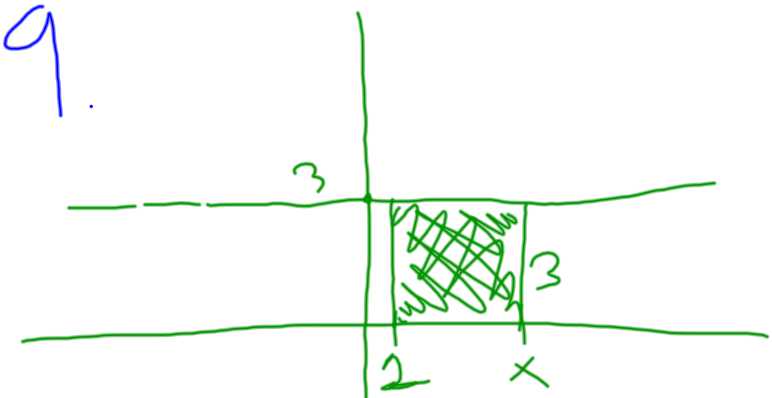
$f(x)=\sqrt{1-x^2}$ $\quad 0, 1$

$(1-x^2)^{1/2}$

$\left((1-1/2^2)^{1/2}+(1-2/2^2)^{1/2}\right)^{1/2}$

$\frac{1}{2}\left(\sqrt{3/4}\right)$ $\quad \sqrt{0}$

9.



$1+x \quad 3 \cdot 1+x$

$3+3x$